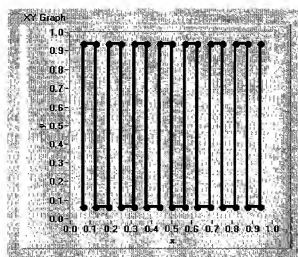


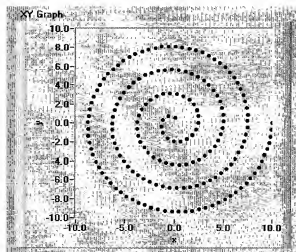
Approximated Peano Curve. The space-filling process has not been completed.

Figure 1A (Prior Art)



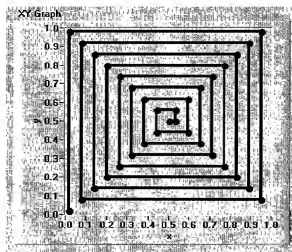
Boustrophedon Path

Figure 1B (Prior Art)



Archimedes Spiral defined by equally distributed points

Figure 1C (Prior Art)



Spiral-like line-based scanning

Figure 1D (Prior Art)

108090*28697860

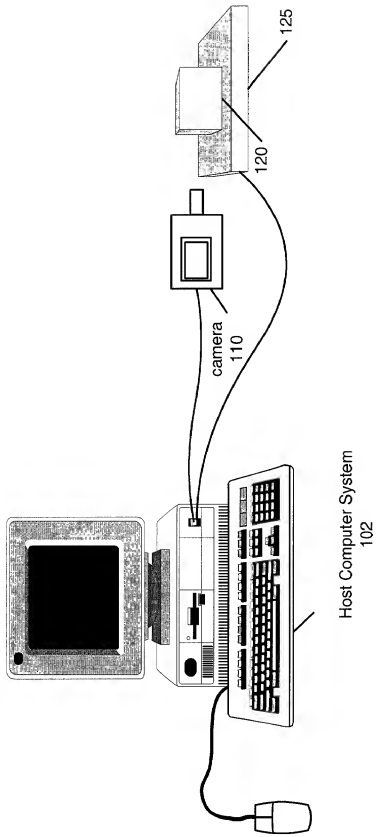


Figure 2A

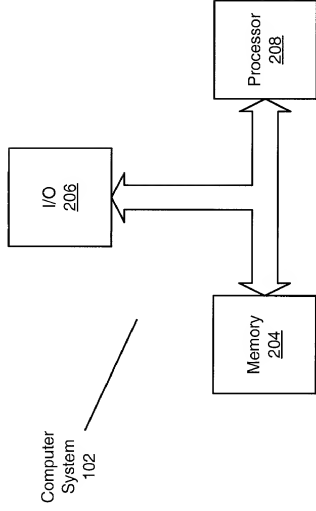


Figure 2B

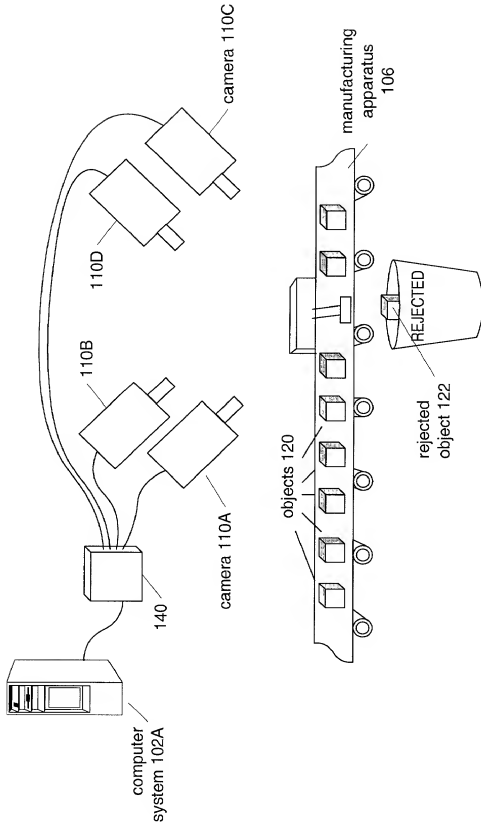


Figure 3A

108090-28692860

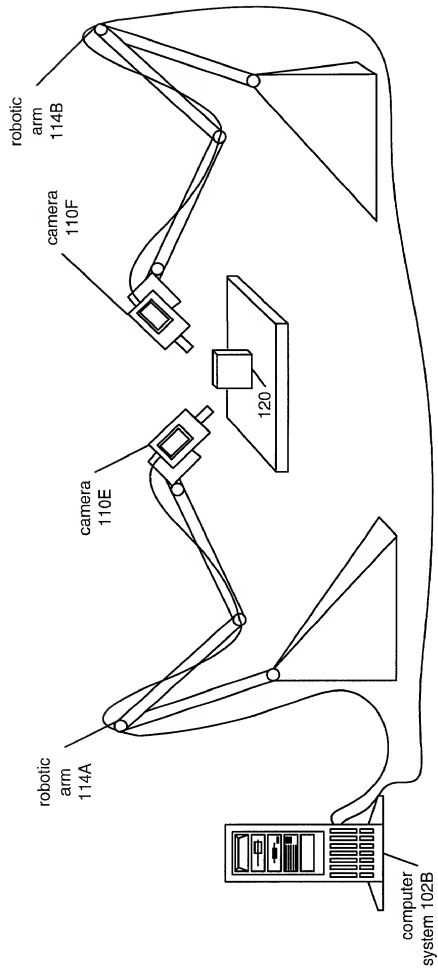


Figure 3B

The diagram illustrates a computer system 102C connected to a Phased Array 306. The computer system 102C is represented by a vertical rack with a monitor and keyboard. A cable connects it to a small rectangular box, which is the Phased Array 306. The Phased Array 306 is shown as a large, curved surface composed of a grid of rectangular elements. These elements are arranged in a 4x8 grid. The elements are labeled as Array Elements 304. The diagram shows the computer system 102C connected to the Phased Array 306, which is then connected to the Array Elements 304.

Figure 3C

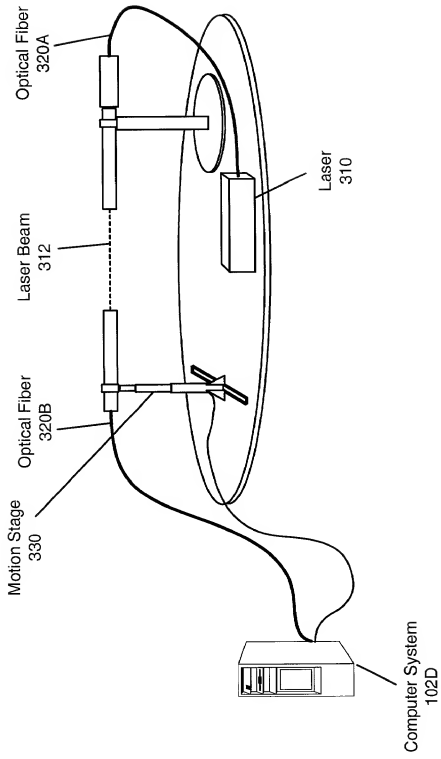
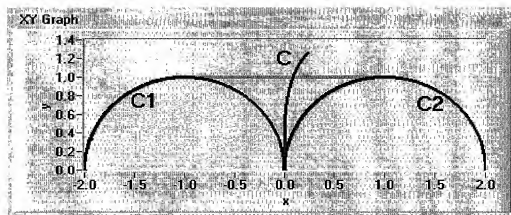
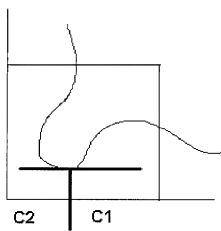


Figure 3D



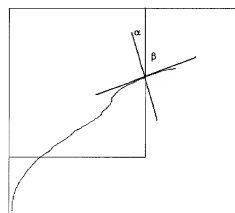
The situation of Lemma 1

Figure 4A



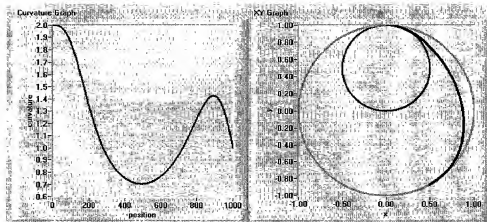
Case (A)

Figure 4B



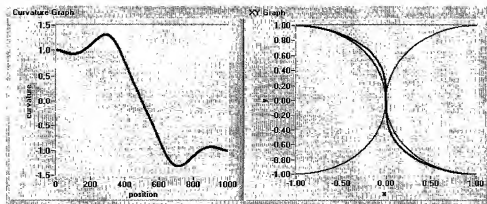
Case (B)

Figure 4C



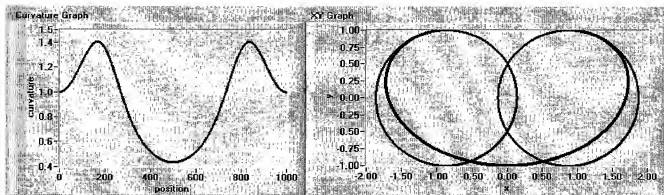
Smooth transition between two circles of different radii.

Figure 4D



Smooth transition between two circles of same radius.

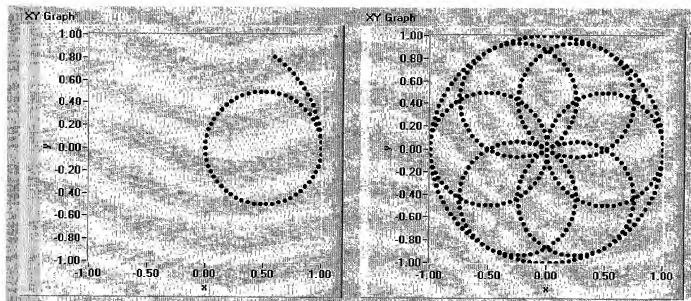
Figure 4E



Transition between two unit circles of radius 1. The distance between the circles is $\sqrt{3}$

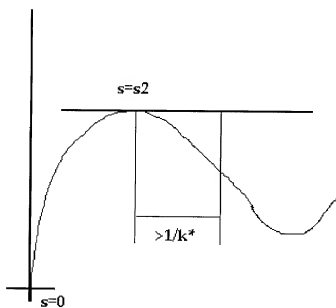
Figure 4F

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Beginning (left) and completion (right) of a scanning scheme where the curvature is below a certain value

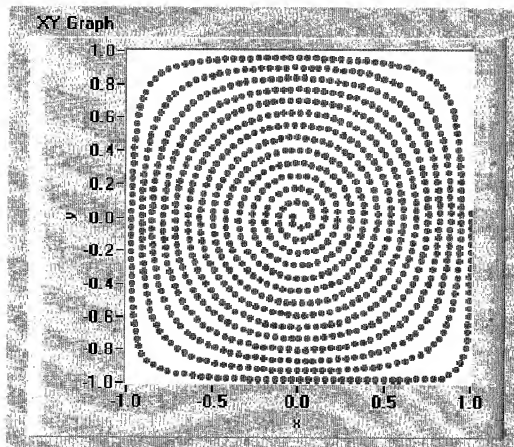
Figure 5A



Construction of s_2 and the subsequent part of the curve

Figure 5B

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Conformal Spiral.

Figure 6

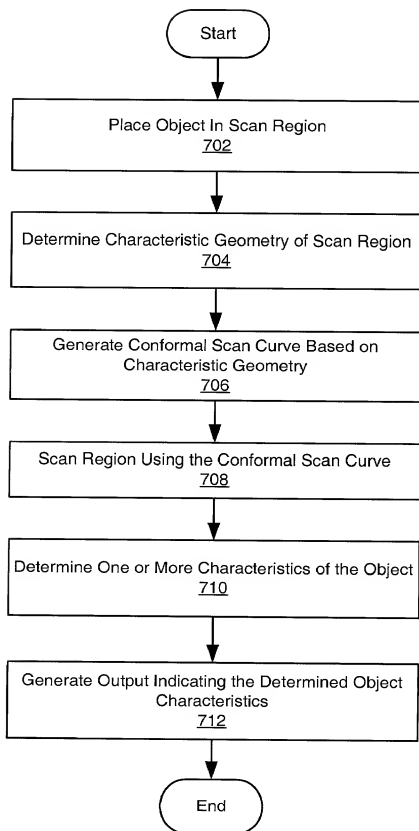
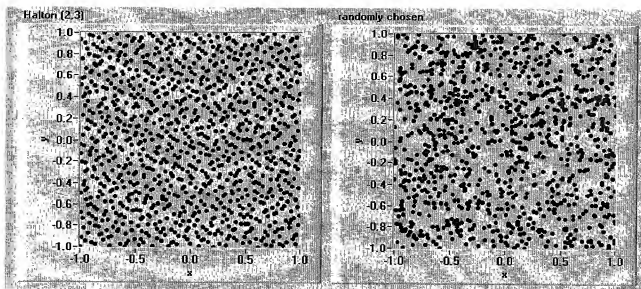
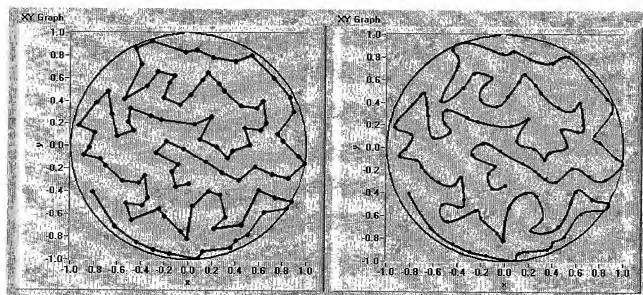


Figure 07



The first 1000 Halton points (left) and randomly chosen points (right)

Figure 8A



Original solution (left) and splined version (right).

Figure 8B

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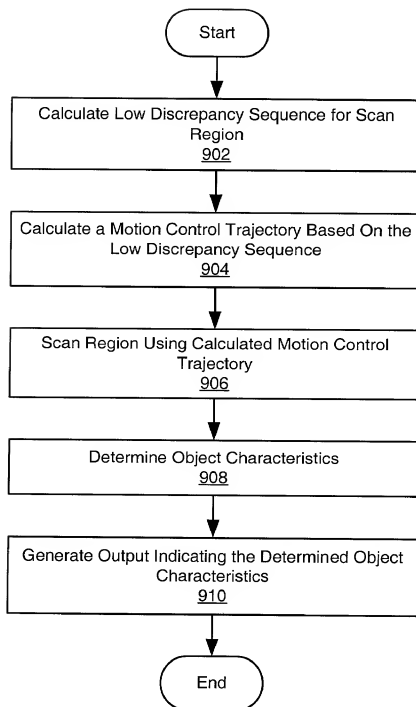
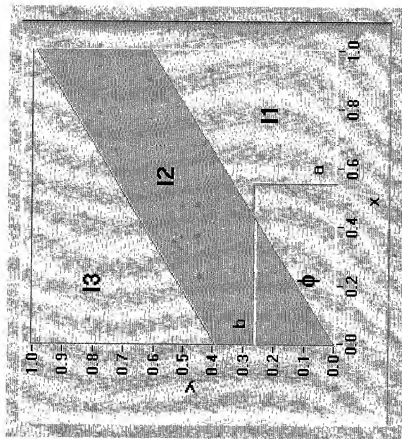


Figure 9



Definition of I_1 , I_2 , and I_3

Figure 10

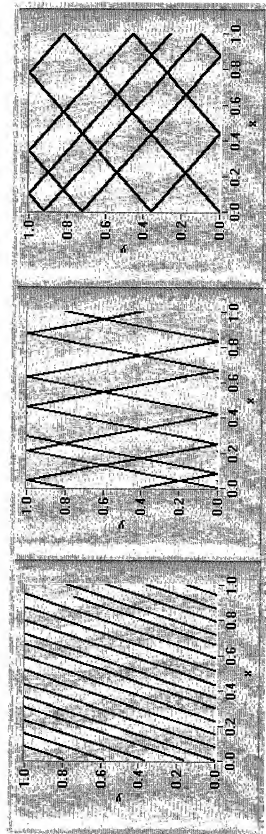


Figure 11A

Figure 11B

Figure 11C

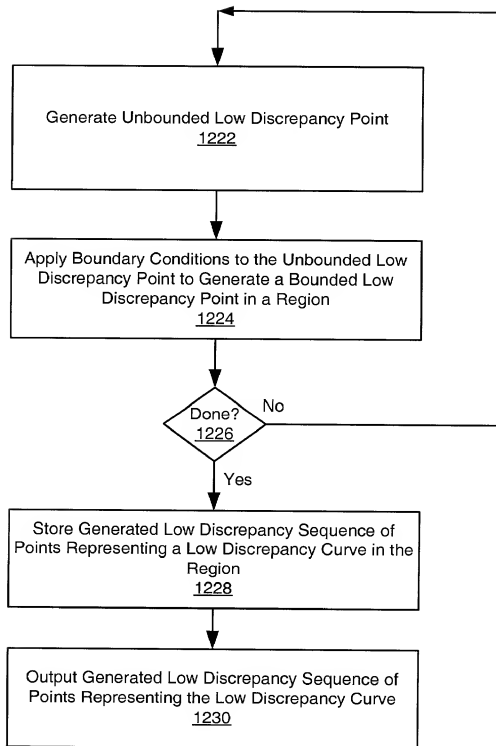


Figure 12A

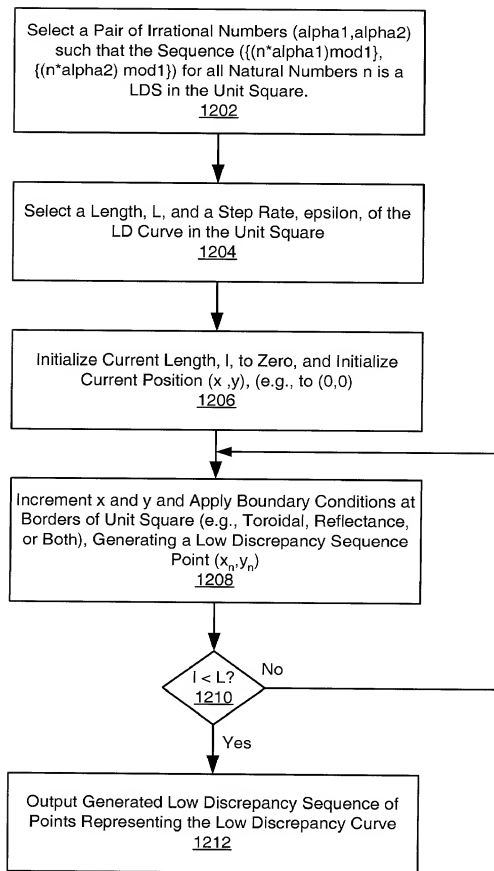
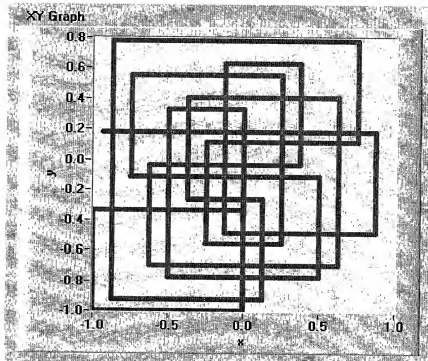
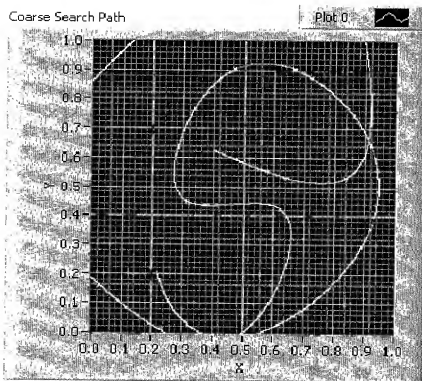


Figure 12B



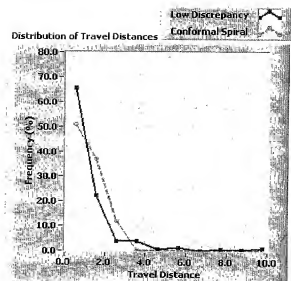
Beginning of a Low Discrepancy Curve based on a specific Halton Sequence in 2d

Figure 13A



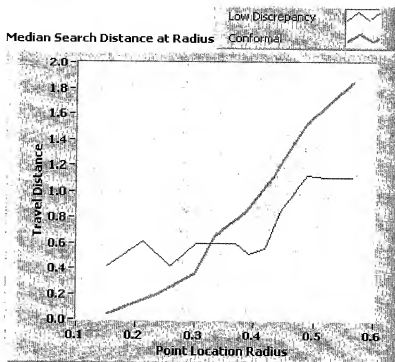
Splined Low Discrepancy Curve coarse search

Figure 13B



Comparison of Conformal Spiral and Low Discrepancy Searching

Figure 13C



Comparison of Travel Distance for Low Discrepancy Search and Conformal Spiral Search

Figure 13D

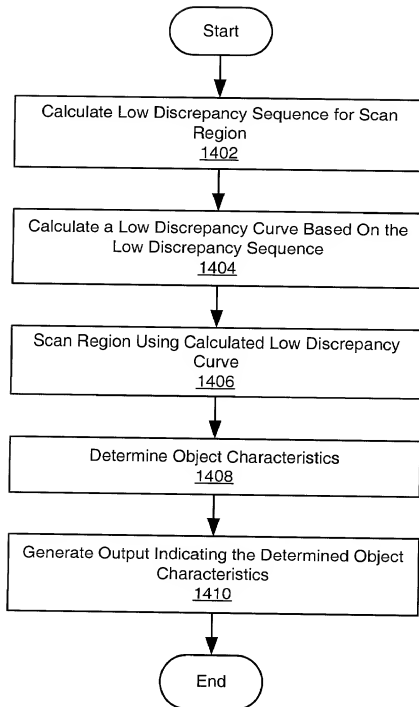
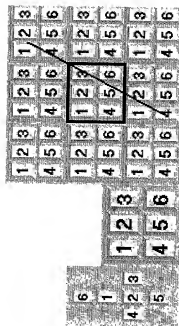
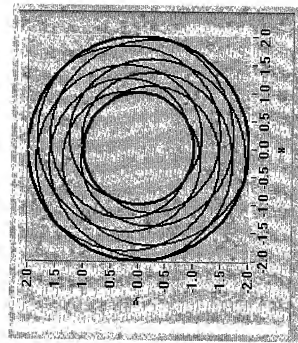


Figure 14



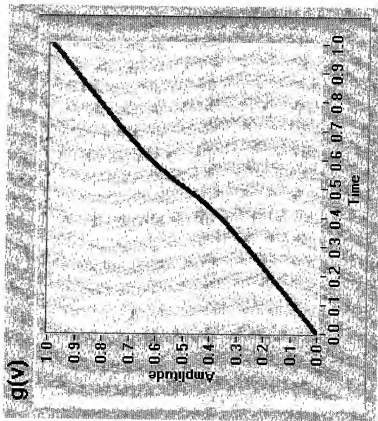
Tiling of the plane and relation to the surface of the unit cube

Figure 15A



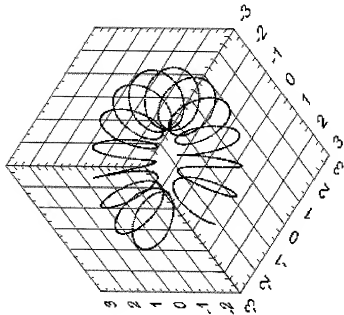
Low-discrepancy curve in a ring

Figure 15B



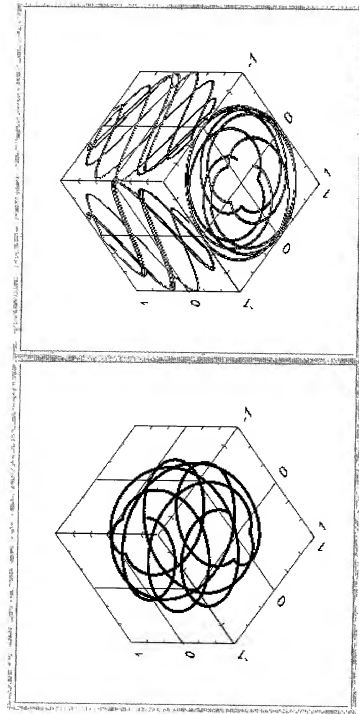
Low Discrepancy Preserving Mapping Function

Figure 15C



Low-discrepancy curve filling the surface of a torus

Figure 15D



Low-discrepancy curve on a sphere
(left) and projections (right)

Figure 16

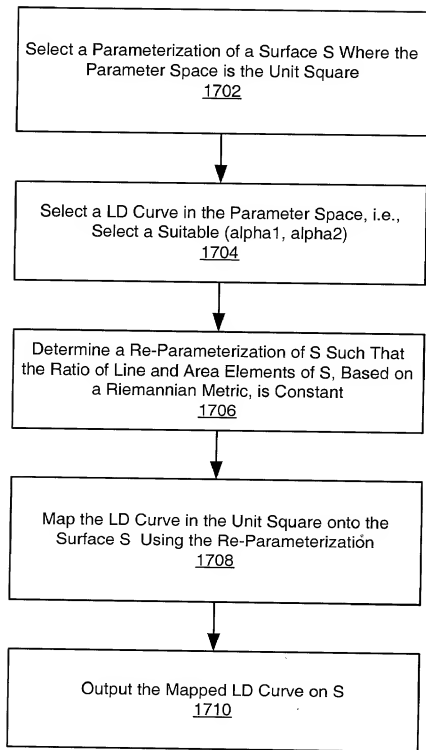
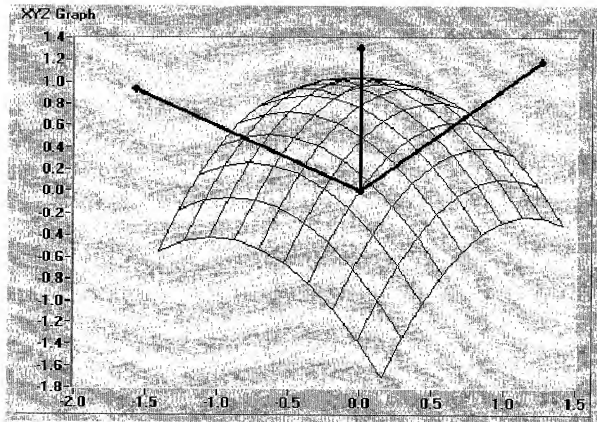


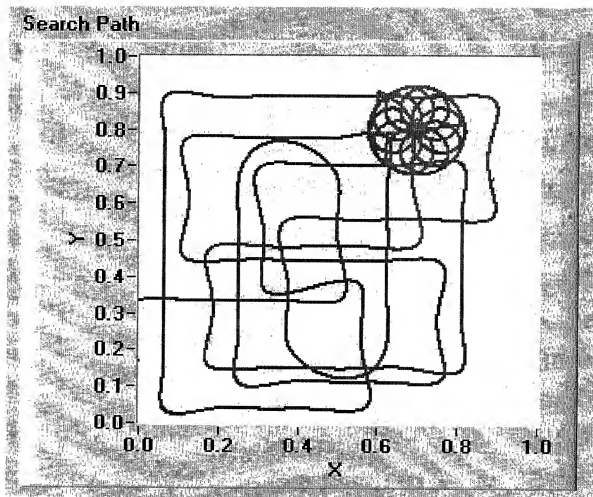
Figure 17



Surfaces can be scanned efficiently when the term low discrepancy sequence/curve can be generalized, e.g. based on metrics on the surface.

Figure 18

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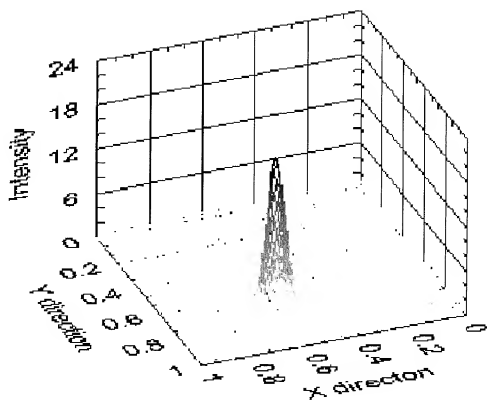


Splined Low Discrepancy Curve coarse search with refined final approach

Figure 19

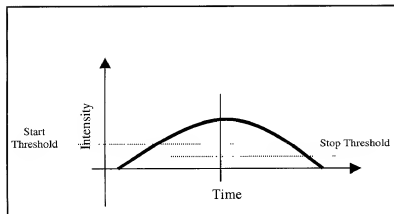
00875682.060801

Intensity Field Distribution in Search Area



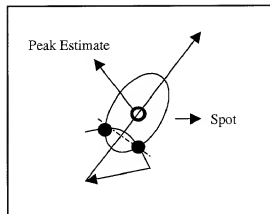
Beam intensity distribution in search area

Figure 20



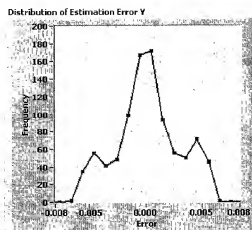
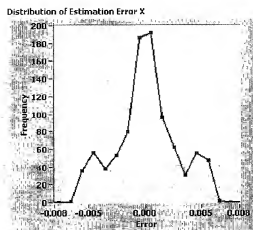
Location of the Peak

Figure 21A



Initial Final Approach Move

Figure 21B



Error distribution of the estimated peak X coordinate error (left) and Y coordinate error (right)

Figure 21C

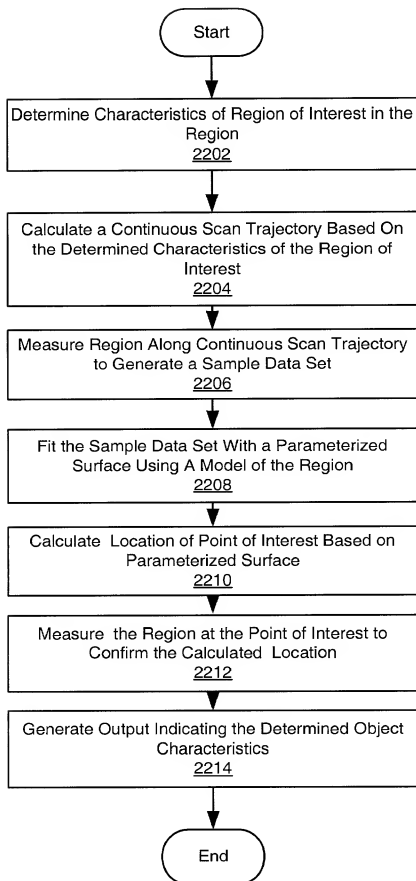


Figure 22

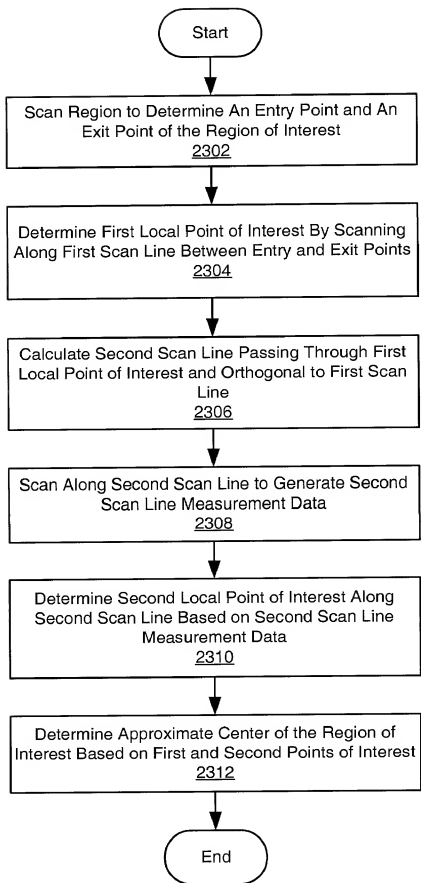


Figure 23